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## Patent Abstracts of Japan

PUBLICATION NUMBER : 04088104  
PUBLICATION DATE : 23-03-92

APPLICATION DATE : 31-07-90  
APPLICATION NUMBER : 02204748

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INT.CL. : B22F 9/24 C25D 1/12

TITLE : MANUFACTURE OF GRANULAR COPPER FINE POWDER

ABSTRACT : PURPOSE: To obtain a granular copper fine powder having stable quality at a low cost and to extremely effectively use this powder for a raw material for powder metallurgical product and electronic parts, by executing electrolysis to the granular copper using a metallic copper as anode in sulfuric acid solution containing  $Ti^{3+}$  ion, reducing a  $Cu^{2+}$  ion eluted from the anode with a  $Ti^{3+}$  ion and precipitating a copper fine powder.

CONSTITUTION: At the time of electrolyzing the granular copper using the metallic copper as the anode in the sulfuric acid solution containing a  $Ti^{3+}$  ion, a  $Cu^{2+}$  ion eluted in the solution is reduced with a  $Ti^{3+}$  ion in the solution due to the reaction  $Cu^{2+} + 2Ti^{3+} \rightarrow Cu + 2Ti[Ox]^{n+}$  and precipitated in the granular fine powder-state as the metallic copper. Then, the particle size of the obtd. copper powder can be adjusted with elution velocity of a  $Cu^{2+}$  ion, i.e., with current density in the anode and a  $Ti^{3+}$  ion concn. in the sulfuric acid solution.

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